

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (original) A method of estimating channel coefficients (h) in a multi carrier system operating in accordance with a block-code based transmit diversity scheme, in which a data content ( $C^{(i)}$ ) of a code matrix (C) is multiplexed in a frequency domain, comprising:

- a) determining a phase ramp ( $\varphi_{est}$ ) in the frequency domain or an equivalent ( $\Delta t$ ) thereof in the time domain, the phase ramp ( $\varphi_{est}$ ) or the equivalent ( $\Delta t$ ) thereof being comprised within a receive signal ( $Y_{\Delta t}$ ) after timing synchronization;
- b) processing the receive signal ( $Y_{\Delta t}$ ) to remove the phase ramp ( $\varphi_{est}$ ) or the equivalent ( $\Delta t$ ) thereof; and
- c) estimating the channel coefficients (h) on the basis of the processed receive signal ( $Y_{\Delta t}$ ).

2. (original) The method of claim 1, wherein the phase ramp ( $\varphi_{est}$ ) or the equivalent ( $\Delta t$ ) thereof is determined by way of estimation.

3. (original) The method of claim 2, wherein the estimation is performed by linear regression.

4. (currently amended) The method of ~~one of claims 1 to 3~~ claim 1, further comprising the step of performing timing synchronization with the object of minimizing intersymbol interference.

5. (currently amended) The method of ~~one of claims 1 to 4~~ claim 1, wherein at least one of steps a) and b) is performed in the frequency domain.

6. (currently amended) The method of ~~one of claims 1 to 4~~ claim 1, wherein at least one of steps a) and b) is performed in a time domain.

7. (currently amended) The method of ~~one of claims 1 to 6~~ claim 1, wherein after timing synchronization the receive signal ( $Y_{\Delta t}$ ) is split and fed into a channel estimation branch (56) on the one hand and a demodulation branch (58) on the other hand, and wherein the phase ramp ( $\varphi_{est}$ ) or the equivalent ( $\Delta t$ ) thereof is removed in the channel estimation branch (56).

8. (currently amended) The method of ~~one of claims 1 to 6~~ claim 1, wherein after timing synchronization the receive signal ( $Y_{\Delta t}$ ) is split and fed into a channel estimation branch (56) on the one hand and a demodulation branch (58) on the other hand, and wherein the phase ramp ( $\varphi_{est}$ ) or the equivalent ( $\Delta t$ ) thereof is removed prior to splitting of the receive signal ( $Y_{\Delta t}$ ).

9. (currently amended) The method of ~~one of claims 1 to 7~~ claim 1, further comprising introducing the phase ramp ( $\varphi_{est}$ ) or the equivalent ( $\Delta t$ ) thereof into the estimated channel coefficients ( $\hat{h}$ ).

10. (currently amended) The method of ~~one of claims 1 to 9~~ claim 1, further comprising demodulating the receive signal ( $Y_{\Delta t}$ ) utilizing the estimated channel coefficients ( $\hat{h}$ ).

11. (currently amended) The method of ~~one of claims 1 to 10~~ claim 1, wherein the block-code based transmit diversity scheme of space-frequency block coding (SFBC) or of permutation in the frequency domain is employed.

12. (currently amended) A computer program product comprising program code portions for performing the steps of ~~one of claims 1 to 11~~ claim 1 when the product is run on a computer.

13. (original) The computer program product of claim 12 stored on a computer readable recording medium.

14. (original) An estimating stage (60) for estimating channel coefficients (h) in a multi carrier system operating in accordance with a block-code based transmit diversity scheme in which a data content ( $C^{(i)}$ ) of a code matrix (C) is multiplexed in a frequency domain, comprising:

- a) a unit (48) for determining a phase ramp ( $\varphi_{est}$ ) in the frequency domain or an equivalent ( $\Delta t$ ) thereof in the time domain, the phase ramp ( $\varphi_{est}$ ) or the equivalent ( $\Delta t$ ) thereof being comprised within a receive signal ( $Y_{\Delta t}$ ) after timing synchronization;
- b) a unit (50) for processing the receive signal ( $Y_{\Delta t}$ ) to remove the phase ramp ( $\varphi_{est}$ ) or the equivalent ( $\Delta t$ ) thereof; and
- c) a unit (44) for estimating the channel coefficients (h) on the basis of the processed receive signal ( $Y_{\Delta t}$ ).

15. (original) The estimating stage according to claim 14, further comprising a node (54) for splitting a signal path (55) after timing synchronization into a channel estimation branch (56) on the one hand and a demodulation branch (58) on the other hand, and wherein the unit (50) for processing the receive signal ( $Y_{\Delta t}$ ) is arranged in the channel estimation branch (56).

16. (original) The estimating stage according to claim 14, further comprising a node (54) for splitting a signal path (55) after timing synchronization into a channel estimation branch (56) on the one hand and a demodulation branch (58) on the other hand, and wherein the unit (50) for processing the receive signal ( $Y_{\Delta t}$ ) is arranged in the signal path (55) prior to the node (54).

17. (currently amended) The estimating stage according to claim 14 ~~or 15~~, further comprising a unit (52) for introducing the phase ramp ( $\varphi_{est}$ ) or the equivalent ( $\Delta t$ ) thereof into the estimated channel coefficients ( $\hat{h}$ ).

18. (currently amended) A transceiver of a wireless communication system comprising a receiver stage (40) with an estimating stage (60) according to ~~one of claims 14 to 17~~ claim 14.